THORLABS
43 Sparta Avenue
Newton, NJ 07860 | Sales: (973) 300-3000 | www.thorlabs.com

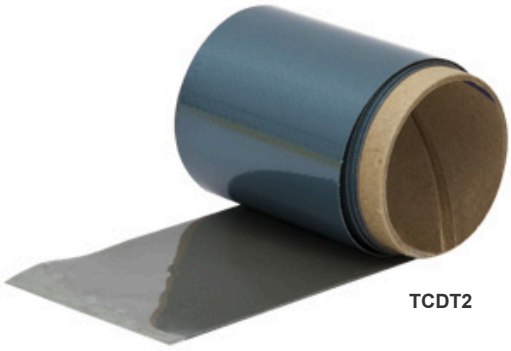
EG58 - October 2, 2024

Item EG58 was discontinued on October 2, 2024. For informational purposes, this is a copy of the website content at that time and is valid only for the stated product.

CONDUCTIVE EPOXY AND TAPE

- **Conductive Silver Epoxy**
- **Thermally Conductive Double-Sided Tape**

EG58
Silver Epoxy 4.4 g



TCDT2

OVERVIEW

Thorlabs offers the Electrodag™ 5810 Conductive Epoxy and two sizes of Thermally Conductive Double-Sided Tape. Thorlabs also carries standard epoxies and adhesives.

Conductive Epoxy

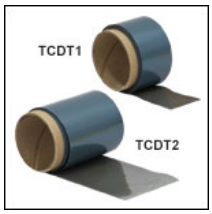
- Ideal for Mounting Conductive Components that Cannot be Soldered
- Low Resistance Epoxy Coating or Adhesive, 0.0007 Ohm-cm
- Lap Shear: 1000 psi
- Maximum Operating Temperature of 250 °F (121 °C)

Thorlabs offers Electrodag™ 5810 Conductive Epoxy for use in places where soldering is not possible. This two-component epoxy has good electrical and thermal conductivity, featuring a low volume resistance of 0.0007 Ohm-cm and a lap shear of 1000 psi. The silver-filled epoxy has a cure time of 24 hours at room temperature; the cure time can be accelerated to 2 hours at 149 °F (65 °C) or 1 hour at 212 °F (100 °C). The epoxy is packaged in two separate bags with a net weight of 4.4 grams.

The shelf life of EG58 Epoxy will vary depending on the date the epoxy was packaged at the manufacturer. For information on the shelf life of EG58 Epoxy, please contact Tech Support.

Part Number	Description	Price	Availability
EG58	**Electrodag 5810 Silver Epoxy 4.4 g**	**$34.64**	**Lead Time**

Pressure-Activated Thermally Conductive Double-Sided Tape



- Thermally Conductive Double-Sided Acrylic Adhesive Tape
- 0.009" (0.229 mm) Thick
- Two Options:
  - TCDT1: 1" Wide x 48" Long (25.4 mm x 1219 mm)
  - TCDT2: 2" Wide x 24" Long (50.8 mm 610 mm)
- Great Alternative to Heat-Cured Adhesives, Screw Mounting, or Clip Mounting
- Provides a High Bond Strength to a Variety of Surfaces
- Can be Removed without Damaging Parts

The thermally conductive, double-sided tape consists of a superior bond strength, pressure-sensitive acrylic adhesive loaded with titanium diboride and applied to an expanded aluminum carrier. The tape is embossed with an innovative pattern for maximum conformability and minimal air pockets and offers excellent thermal, mechanical, environmental, and chemical properties. Our thermally conductive double-sided tape can bond heat sinks and thermal plates to components without the use of clips, screws, other mechanical fasteners, or additional thermal compounds and can be removed after the application without damage to the component.

Usage Instructions

This tape requires pressure to bond. At room temperature, we recommend holding components together with a minimum of 10 psi for 15 seconds, or preferably 30 psi for 5 seconds.

Before application, ensure that bonding surfaces are free from oil, dust, or any contamination that may affect bonding. Wearing gloves, wipe surfaces with a clean, lint-free cloth dampened with industrial solvents such as acetone or isopropyl alcohol. When cutting tape to size, we recommend cutting it slightly smaller than the area to be taped.

Apply the tape to the center of the heat sink bonding area and smooth over the entire surface with a hand or roller. More pressure produces better wetting out of the adhesive to the contact surfaces. A twisting motion during assembly of the two bonding surfaces will typically improve wetting. Note that typically 70% of the ultimate adhesive bond strength is achieved with initial application, and 80-90% is reached within 15 minutes. Ultimate adhesive strength is achieved within 36 hours; however, the next handling step can typically occur immediately following the initial application.

To remove, carefully insert a thin, short blade into the bond line at a corner between the components. Remove the blade and insert a spatula into the wedge. Slowly twist the spatula blade so that it exerts a slight upward pressure. As the two surfaces start to separate, move the spatula blade deeper into the bond line and continue the twisting motion and upward force. After the two components are separated, the tape can be removed and discarded.

If adhesive remains on the surfaces, it should be removed. Adhesive is best removed by wiping with a clean, lint-free cloth dampened with solvent. Use sufficient solvent to remove all adhesive. Parts must be free of solvent before applying more adhesive.

Item #	TCDT1	TCDT2
Construction		
Carrier	Expanded Al	
Color	Grey	
Thickness	0.009" ± 0.001" (0.229 mm ± 0.03 mm)	
Thermal		
Thermal Impedance @ <1 psi	0.25 °C-in^2/W (1.7 °C-cm^2/W)	
Thermal Conductivity	1.40 W/m-K	
Electrical		
Voltage Breakdown	N/A	
Volume Resistivity	0.013 ohm-cm	
Flammability Rating (E140244)	Not Rated	
Lap Shear Adhesion	70 psi (0.483 MPa)	

Item #		TCDT1	TCDT2
Mechanical			
Die Shear Adhesion	**Aluminum**	135 psi (0.931 MPa) @ 25 °C 25 psi (0.172 MPa) @ 150 °C	
	Copper	115 psi (0.793 MPa) @ 25 °C 35 psi (0.241 MPa) @ 150 °C	
	Aluminum Oxide	125 psi (0.862 MPa) @ 25 °C 40 psi (0.276 MPa) @ 150 °C	
Creep Adhesion	**25°C, 12 psi (0.083 MPa)**	>50 days	
	150°C, 12 psi (0.083 MPa)	>50 days	
Adhesive CTE, -40 to 150 °C		400 ppm/°C	
Dimensions		1" x 48" (25.4 mm x 1219 mm)	2" x 24" (50.8 mm x 610 mm)

Part Number	Description	Price	Availability
TCDT1	**Thermally Conductive Double-Sided Tape, 1" x 48" (25.4 mm x 1219 mm)**	**$37.49**	**Today**
TCDT2	**Thermally Conductive Double-Sided Tape, 2" x 24" (50.8 mm x 610 mm)**	**$25.54**	**Today**